IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

SONOHM LICENSING LLC, Plaintiff, v. **BEST BUY CO., INC.,** Defendant.	C.A. NO. _____ **JURY TRIAL DEMANDED** **PATENT CASE**

ORIGINAL COMPLAINT FOR PATENT INFRINGEMENT

Plaintiff Sonohm Licensing LLC files this Original Complaint for Patent Infringement against Best Buy Co., Inc., and would respectfully show the Court as follows:

I. THE PARTIES

1. Plaintiff Sonohm Licensing LLC ("Sonohm" or "Plaintiff") is a Texas limited liability company with its principal place of business at 15922 Eldorado Pkwy, Suite 500-1641, Frisco, TX 75035.

2. On information and belief, Defendant Best Buy Co., Inc. ("Defendant") is a corporation organized and existing under the laws of Minnesota, with a place of business at 1165 N Dupont Hwy, Dover, DE 19901.

II. JURISDICTION AND VENUE

3. This action arises under the patent laws of the United States, Title 35 of the United States Code. This Court has subject matter jurisdiction of such action under 28 U.S.C. §§ 1331 and 1338(a).

4. On information and belief, Defendant is subject to this Court's specific and general personal jurisdiction, pursuant to due process and the Delaware Long-Arm Statute, due

at least to its business in this forum, including at least a portion of the infringements alleged herein.

5. Without limitation, on information and belief, within this state, Defendant has used the patented inventions thereby committing, and continuing to commit, acts of patent infringement alleged herein. In addition, on information and belief, Defendant has derived revenues from its infringing acts occurring within Delaware. Further, on information and belief, Defendant is subject to the Court's general jurisdiction, including from regularly doing or soliciting business, engaging in other persistent courses of conduct, and deriving substantial revenue from goods and services provided to persons or entities in Delaware. Further, on information and belief, Defendant is subject to the Court's personal jurisdiction at least due to its sale of products and/or services within Delaware. Defendant has committed such purposeful acts and/or transactions in Delaware such that it reasonably should know and expect that it could be haled into this Court as a consequence of such activity.

6. Venue is proper in this district under 28 U.S.C. § 1400(b). On information and belief, from and within this District Defendant has committed at least a portion of the infringements at issue in this case and Defendant has a place of business within this District.

7. For these reasons, personal jurisdiction exists and venue is proper in this Court under 28 U.S.C. § 1400(b).

III. COUNT I
(PATENT INFRINGEMENT OF UNITED STATES PATENT NO. 6,651,207)

8. Plaintiff incorporates the above paragraphs herein by reference.

9. On November 18, 2003, United States Patent No. 6,651,207 ("the '207 Patent") was duly and legally issued by the United States Patent and Trademark Office. The '207 Patent is titled "Method and System for Improving Voice Quality in Cordless Communications." A true

and correct copy of the '207 Patent is attached hereto as Exhibit A and incorporated herein by reference.

10. Sonohm is the assignee of all right, title and interest in the '207 patent, including all rights to enforce and prosecute actions for infringement and to collect damages for all relevant times against infringers of the '207 Patent. Accordingly, Sonohm possesses the exclusive right and standing to prosecute the present action for infringement of the '207 Patent by Defendant.

11. The application leading to the '207 patent was filed August 20, 1999. (Ex. A at cover).

12. The invention in the '207 Patent relates to the field of telecommunications and more particularly improving voice quality in cordless communications. (*Id.* at col. 1:8-10).

13. In conventional cordless voice communication systems, there is typically a base station which acts as a master supporting a plurality of mobile units, which act as slaves. (*Id.* at col. 1:13-17). The master base station establishes communication links with the mobile units and has a function to detect errors over the communications links with the mobile units. (*Id.* at col. 1:17-20).

14. Predictive methods have been used to suppress distorted data packets in order to improve voice quality over the communication link. (*Id.* at col. 1:21-24). The particular method chosen generally depends on the speed at which errors over the communication links can be detected. (*Id.* at col. 1:24-26). In cordless systems in which the single carrier is used, data packets are correlated from transmission to transmission such that if the quality of a first transmission is poor then it is highly likely that the next transmission will also be poor. (*Id.* at col. 1:26-28). As a result, from the data packets from the first transmission, the quality of the

data packets for the next transmission can be predicted and the base station can suitably and prospectively suppress distorted data packets. (*Id.* at col. 1:29-33).

15. However, frequency hopping systems, which use various carriers over each communication link and change the carriers from time to time, a problem arises when a communication link encounters interference problems affecting the quality of the communications link. (*Id*. at col. 1:35-40). In a frequency hopping scheme, the base station and mobile units generally move in sync in time from frequency to frequency. (*Id.* at col. 3:55-57). Mobile units not initially synced with a base unit "listen" to a specific radio frequency to attempt to lock on to the base station. (*Id.* at col. 3:57-61). When the base station hops to that specific frequency, the mobile units identify and receive control data transmitted by the base station, which allows the mobile units to lock with the base station and sync with the frequency hopping scheme. (*Id.* at col. 3:61-65). The frequency hopping scheme therefore helps the wireless communication system to avoid bad channels or frequencies due to radio frequency interference and other problems. (*Id.* at col. 3:65 – col. 4:1).

16. The challenging problem of the frequency hopping scheme is that the system algorithms ensure that, unlike same carrier wireless communications, the contents of consecutive data packets are not correlated. (*Id.* at col. 4:4-7). There is also no way to derive from the first transmission the necessary parameters to perform packet suppression for the second transmission. (*Id.* at col. 1:46-48). In other words, the quality of a prior data packet cannot be used to predict the quality of successive data packets. (*Id.* at col. 1:42-46, col. 4:7-10). This problem frustrates users and has been a longstanding challenge to the developers of cordless communication devices. (*Id.* at col. 48-51). The inventors therefore sought ways to improve voice quality in cordless communications that used frequency hopping schemes.

17. The following is an exemplary implementation of the claimed invention. To improve the voice quality over each communication link, the base station can select a frequency in which to establish a link between the base station and a mobile unit. (*Id.* at col. 4:11-15). The base station monitors the quality of the frequency used on the link. (*Id.* at col. 4:15-16). The quality of the frequency can be determined by measuring parameters that indicate that signal bursts or parts of signal bursts are lost or corrupted over the communication link, or the strength of the signal over the communication link. (*Id.* at col. 4:16-20). If the quality of the frequency is unacceptable, the frequency may be marked as bad such that the next time the marked frequency is used in the frequency hopping scheme, the base station corrects the error. (*Id.* at col. 4:20-27). For example, the base station may mute the data or communicate to the mobile unit that it should use the prior data packet. (*Id.* at col. 4:27-29). Because the base station evaluates on a frequency-by-frequency basis, each mobile unit may actively communication with the base station on the same or individual frequencies that minimize the loss of voice information over individual links associated with each unit. (*Id.* at col. 4:36-41). For example, if a mobile communication system defines twelve different subsets for groups channels within the frequency band, the system can select the current best ten out of the twelve available subsets to communicate and block the remaining two subsets because those subsets represent poor quality for that communication link. (*Id.* at col. 6:17-24).

18. The claimed invention has a technical advantage over the prior art through its ability to automatically monitor the quality of the frequency used on an individual communications link so that the base station may then perform data correction on the frequency in response to monitored quality of the frequency. (*Id.* at col. 2:14-19). This scheme to improve voice quality can be used with any algorithm to prevent interference with multiple base stations

in a system. (*Id.* at col. 4:42-44). Furthermore, this scheme can also avoid selecting frequencies yielding poor quality for individual communication links. (*Id.* at col. 4:50-52).

19. During the prosecution history of the '207 patent, applicant discussed the unconventional features of the claimed invention that distinguished the invention from the prior art. A distinguishing claim limitation discussed was "selecting another frequency after the first time period to transmit and receive data over the communication link; after selecting the another frequency, selecting, during a second time period, the frequency that was monitored during the first time period; and performing, during the second time period, error correction on the selected frequency in response to the monitored quality monitored during the first time period," and similar limitations. (Ex. B at 8-9). The prior art did not disclose being able to "select and monitor a first frequency, select a second frequency, then select the first frequency again, and then perform error correction for the first frequency in response to the monitoring of the first frequency prior to a selection of the second frequency." (*Id.* at 8). Rather the prior art disclosed using coder and decoder for detection and correction of errors and carrying out judgement and correction of errors in data as the signal is received. (*Id.* at 8-9).

20. The '207 patent was cited during the prosecution history of patents and patent applications owned by companies including Sprint Communications Company L.P., Cisco Technology, Inc. AT&T Intellectual Property I, L.P., RF Micro Devices, Inc. Qualcomm Incorporated, and Samsung Electronics Co. (*See* http://patft.uspto.gov/netacgi/nph-Parser?Sect1=PTO2&Sect2=HITOFF&p=1&u=%2Fnetahtml%2FPTO%2Fsearch-bool.html&r=3&f=G&l=50&co1=AND&d=PTXT&s1=6,651,207&OS=6,651,207&RS=6,651,207; https://patents.google.com/patent/US6651207B1/en?oq=6%2c651%2c207).

21. **Direct Infringement.** Upon information and belief, Defendant has been directly infringing at least claim 11 of the '207 patent in Delaware, and elsewhere in the United States, by performing actions comprising at least using or performing the claimed method for improving voice quality in cordless communications by using Amazon Fire HD 8, Amazon Fire Kids Edition 7, Amazon Fire HD 10, Amazon Fire HD 10 Kids Edition, Amazon Fire 7, ASUS - ZenFone Max Plus M1, BLU Vivo XI+, BLU Grand M2, BLU Vivo XI, BLU Vivo One Plus, BLU Studio Mega, BLU Grand M3, BLU Vivo ONE, Caterpillar's CAT S41, CellAllure Cool Duo, CellAllure Fashion C, CellAllure Fashion 2, CellAllure Miracle S, DigiLand DL1016 10.1" Tablet, Ematic 10.1" Tablet, NUU Mobile A3, RugGear RG730, RugGear RG725, RugGear RG650, RugGear RG160, Visual Land Prestige Elite 10QL, Prestige Elite 10QD, PRESTIGE Elite - 13.3", Prestige Elite 11Q, Insignia™ - BRICK 2 Portable Bluetooth Speaker – Black, Insignia™ - WAVE 2 Portable Bluetooth Speaker - Black/Red/Blue, Insignia™ - Rugged Portable Bluetooth Speaker – Black, Insignia™ - 2.0-Channel Soundbar with Digital Amplifier – Black (NS-HSB318), Insignia™ - 2.0 Bluetooth Lighted Speaker System (2pc) – Black, Insignia™ - 200W 2.0-Ch. Stereo Receiver – Black, Insignia™ - 2.1 Bluetooth Speaker System (3-Piece) – Black, Insignia™ - Portable Bluetooth Speaker Pair with built-in Walkie-Talkies – Black, Insignia™ - Premium Audio Pico WVGA DLP Projector, Insignia™ - 2.1 Bluetooth Lighted Speaker System (3-Piece) – Black, Insignia™ - Portable Bluetooth Audio Receiver, Insignia™ - True Wireless In-Ear Headphones – Black, Insignia™ - Wireless In-Ear Headphones – Black, and Insignia™ - Wireless Earbud Headphones - Off-white ("Accused Instrumentality").

22. Upon information and belief, the Accused Instrumentality performs the step of selecting a unique carrier frequency over an individual communication link, the communication

link operable to carry data between at least one mobile unit and a base station. For example, the Accused Instrumentalities implement Bluetooth 4.0 (or later version). (*E.g.*, https://www.bestbuy.com/site/amazon-fire-hd-8-8-tablet-16gb-8th-generation-2018-release-black/6293710.p?skuId=6293710; https://www.bestbuy.com/site/amazon-fire-7-kids-edition-2019-release-7-tablet-16gb-blue/6351410.p?skuId=6351410; https://www.bestbuy.com/site/amazon-fire-hd-10-10-1-tablet-32gb-7th-generation-2017-release-marine-blue/5998909.p?skuId=5998909; https://www.bestbuy.com/site/amazon-fire-hd-10-kids-edition-10-1-tablet-32gb-pink/6264903.p?skuId=6264903; https://www.bestbuy.com/site/amazon-fire-7-2019-release-7-tablet-32gb-black/6351530.p?skuId=6351530; https://www.bestbuy.com/site/asus-zenfone-max-plus-m1-4g-lte-with-32gb-memory-cell-phone-unlocked-deepsea-black/6186103.p?skuId=6186103; https://www.bestbuy.com/site/blu-vivo-xi-with-64gb-memory-cell-phone-unlocked-silver/6288555.p?skuId=6288555; https://www.bestbuy.com/site/blu-grand-m2-3g-with-8gb-memory-cell-phone-unlocked-gold/6178644.p?skuId=6178644; https://www.bestbuy.com/site/blu-vivo-xi-with-32gb-memory-cell-phone-unlocked-silver/6291857.p?skuId=6291857; https://www.bestbuy.com/site/blu-vivo-one-plus-with-16gb-memory-cell-phone-unlocked-black/6196929.p?skuId=6196929; https://www.bestbuy.com/site/blu-studio-mega-with-16gb-memory-cell-phone-unlocked-black/6291866.p?skuId=6291866; https://www.bestbuy.com/site/blu-grand-m3-with-16gb-memory-cell-phone-unlocked-black/6351954.p?skuId=6351954; https://www.bestbuy.com/site/blu-vivo-one-with-16gb-memory-cell-phone-unlocked-black/6197100.p?skuId=6197100; https://www.bestbuy.com/site/cat-s41-4g-lte-with-32gb-memory-cell-phone-unlocked-black/6179601.p?skuId=6179601; https://www.catphones.com/en-

us/cat-s41-smartphone/; https://www.bestbuy.com/site/cellallure-cool-duo-with-16gb-memory-cell-phone-unlocked-black/6337296.p?skuId=6337296; https://www.cellallure.com/cool-duo; https://www.bestbuy.com/site/cellallure-fashion-c-with-16gb-memory-cell-phone-unlocked-aurora-lights-iml-blue-and-purple/6344671.p?skuId=6344671; https://www.cellallure.com/fashion-c-cs; https://www.bestbuy.com/site/cellallure-cool-duo-with-16gb-memory-cell-phone-unlocked-black/6337296.p?skuId=6337296; https://www.amazon.com/CellAllure-screen-Factory-Unlocked-Smartphone/dp/B00UA55QZ4; https://www.bestbuy.com/site/cellallure-fashion-2-plus-with-16gb-memory-cell-phone-unlocked-gold/6337313.p?skuId=6337313; https://www.cellallure.com/fashion-2-plus; https://www.bestbuy.com/site/cellallure-fashion-2-plus-with-16gb-memory-cell-phone-unlocked-black/6337311.p?skuId=6337311; https://www.cellallure.com/fashion-2-plus; https://www.bestbuy.com/site/cellallure-miracle-s-with-16gb-memory-cell-phone-unlocked-gold/6293240.p?skuId=6293240; https://www.cellallure.com/product-page/cellallure-miracle-6-0-s; https://www.bestbuy.com/site/cellallure-miracle-s-with-16gb-memory-cell-phone-unlocked-black/6293236.p?skuId=6293236; https://www.cellallure.com/product-page/cellallure-miracle-6-0-s; https://www.bestbuy.com/site/digiland-10-1-tablet-32gb-black/6305253.p?skuId=6305253; https://www.bestbuy.com/site/ematic-10-1-tablet-16gb-with-keyboard-black/6302276.p?skuId=6302276; https://www.bestbuy.com/site/ematic-10-1-tablet-16gb-with-keyboard-blue/6302601.p?skuId=6302601; https://www.bestbuy.com/site/ruggear-rg730-with-16gb-memory-cell-phone-unlocked-black/6351961.p?skuId=6351961&intl=nosplash; https://ruggear.com/product/rg730/; https://www.bestbuy.com/site/ruggear-rg725-with-16gb-memory-cell-phone-unlocked-black/6351947.p?skuId=6351947; https://ruggear.com/product/rg725-2/; https://www.bestbuy.com/site/ruggear-rg650-with-16gb-

memory-cell-phone-unlocked-black/6351956.p?skuId=6351956; https://ruggear.com/product/rg650/; https://www.bestbuy.com/site/ruggear-rg160-with-4gb-memory-cell-phone-unlocked-black/6351955.p?skuId=6351955; https://ruggear.com/product/rg160/; https://www.bestbuy.com/site/visual-land-prestige-elite-10ql-10-1-tablet-16gb-with-keyboard-black/4588200.p?skuId=4588200; https://www.cnet.com/products/visual-land-prestige-elite-10ql/; https://www.bestbuy.com/site/visual-land-prestige-elite-10qd-10-1-tablet-16gb-with-keyboard-paisley/6308768.p?skuId=6308768; https://www.amazon.com/Visual-Land-Prestige-Keyboard-ME10QDDC16BLK/dp/B078ZM5Y9Q; https://www.bestbuy.com/site/visual-land-prestige-elite-13-3-tablet-64gb-blue/5710745.p?skuId=5710745; https://www.amazon.com/Prestige-ELITE-13Q-QuadCore-Lollipop/dp/B01CE44DPM; https://www.bestbuy.com/site/visual-land-prestige-elite-10qd-10-1-tablet-16gb-with-keyboard-blue/6308763.p?skuId=6308763; https://www.amazon.com/Visual-Land-Prestige-Keyboard-ME10QDDC16BLK/dp/B078ZM5Y9Q; https://www.bestbuy.com/site/visual-land-prestige-elite-11q-11-6-tablet-32gb-with-keyboard-purple/4626226.p?skuId=4626226; https://www.amazon.com/Prestige-Quad-Core-Lollipop-Keyboard-Included/dp/B016S0XKEI; https://www.bestbuy.com/site/visual-land-prestige-elite-10qd-10-1-tablet-16gb-with-keyboard-magenta/6308760.p?skuId=6308760; https://www.amazon.com/Visual-Land-Prestige-Keyboard-ME10QDDC16BLK/dp/B078ZM5Y9Q; https://www.bestbuy.com/site/visual-land-prestige-elite-13-3-tablet-64gb-magenta/5710744.p?skuId=5710744; https://www.amazon.com/Prestige-ELITE-13Q-QuadCore-Lollipop/dp/B01CE44DPM; https://www.bestbuy.com/site/visual-land-prestige-elite-13-3-tablet-64gb-red/5710743.p?skuId=5710743; https://www.amazon.com/Prestige-ELITE-13Q-QuadCore-Lollipop/dp/B01CE44DPM;

https://www.bestbuy.com/site/visual-land-prestige-elite-11q-11-6-tablet-32gb-with-keyboard-black/4626215.p?skuId=4626215; https://www.amazon.com/Prestige-Quad-Core-Lollipop-Keyboard-Included/dp/B016S0XKEI; https://www.bestbuy.com/site/visual-land-prestige-elite-13-3-tablet-64gb-black/5710748.p?skuId=5710748; https://www.amazon.com/Prestige-ELITE-13Q-QuadCore-Lollipop/dp/B01CE44DPM; https://www.bestbuy.com/site/visual-land-prestige-elite-10qd-10-1-tablet-16gb-with-keyboard-black/6308751.p?skuId=6308751; https://www.amazon.com/Visual-Land-Prestige-Keyboard-ME10QDDC16BLK/dp/B078ZM5Y9Q; https://www.bestbuy.com/site/ematic-10-1-tablet-16gb-with-keyboard-blue/6302601.p?skuId=6302601; https://www.bestbuy.com/site/ematic-10-1-tablet-16gb-with-keyboard-blue/6302601.p?skuId=6302601; https://files.bbystatic.com/4EzY3P1u6%2Fsjbb%2FqeYZHzw%3D%3D/NS-SPBTBRICK-C_QSG_EN.pdf; https://www.bestbuy.com/site/insignia-brick-2-portable-bluetooth-speaker-black/6179625.p?skuId=6179625; https://files.bbystatic.com/mEurpUx6UeZ7thUPRIl9Fg%3D%3D/NS-SPBTWAVE2_17-0900_QSG_V3_EN_Final_lr.pdf; https://www.bestbuy.com/site/insignia-wave-2-portable-bluetooth-speaker-black/6172765.p?skuId=6172765; https://www.bestbuy.com/site/insignia-wave-2-portable-bluetooth-speaker-red/6179631.p?skuId=6179631; https://www.bestbuy.com/site/insignia-wave-2-portable-bluetooth-speaker-blue/6179624.p?skuId=6179624; https://www.bestbuy.com/site/insignia-rugged-portable-bluetooth-speaker-black/5204300.p?skuId=5204300; https://www.bestbuy.com/site/insignia-2-0-channel-soundbar-with-digital-amplifier-black/5809303.p?skuId=5809303; https://files.bbystatic.com/YWsfiIHWDRRF20uY04GiUQ%3D%3D/90b25579-e2ee-4154-8f2a-b2a58946d4d6.pdf; https://www.bestbuy.com/site/insignia-2-0-bluetooth-lighted-speaker-

system-2pc-black/6324347.p?skuId=6324347; https://www.bestbuy.com/site/insignia-200w-2-0-ch-stereo-receiver-black/4156007.p?skuId=4156007; https://files.bbystatic.com/%2BvgZsJBHFE3v5byqxYY7uQ%3D%3D/NS-PSB4721_16-0186_QSG_V1_EN_Final_lr.pdf; https://www.bestbuy.com/site/insignia-2-1-bluetooth-speaker-system-3-piece-black/5450917.p?skuId=5450917; https://files.bbystatic.com/7pKG3tjLyf2tCLdgdzdmeA%3D%3D/4537BB80-F4D2-4D37-BD0E-0DBEFED1D150.pdf; https://www.bestbuy.com/site/insignia-portable-bluetooth-speaker-pair-with-built-in-walkie-talkies-black/6200211.p?skuId=6200211; https://fccid.io/PUZ-NS-PR200/RF-Exposure-Info/RF-Exposure-Info-3574818; https://www.bestbuy.com/site/insignia-premium-audio-pico-wvga-dlp-projector-black/5947812.p?skuId=5947812; https://files.bbystatic.com/%2BvgZsJBHFE3v5byqxYY7uQ%3D%3D/NS-PSB4721_16-0186_QSG_V1_EN_Final_lr.pdf; and https://www.bestbuy.com/site/insignia-2-1-bluetooth-lighted-speaker-system-3-piece-black/6324351.p?skuId=6324351). Using Bluetooth 4.0 (or later version) selects a unique carrier frequency (*e.g.*, a frequency that is determined by adaptive frequency hopping (AFH) pattern) over an individual communication link (Bluetooth link), the communication link (*e.g.*, Bluetooth link) operable to carry data between at least one mobile unit (*e.g.*, slaves, such as a Bluetooth device) and a base station (*e.g.*, master, such as a computer, laptop, tablet, or mobile phone). (*E.g.*, http://download.ni.com/evaluation/rf/intro_to_bluetooth_test.pdf; https://www.bluetooth.org/docman/handlers/downloaddoc.ashx?doc_id=456433).

23. Upon information and belief, the Accused Instrumentality performs the step of monitoring the quality of the selected frequency during a first time period. For example, using Bluetooth 4.0 (or later version) monitors the quality of the selected frequency during a first time

period for example by assessing whether a channel should be classified as bad because an interference-level measure associated with it has exceeded a threshold. (*E.g.*, https://cdn.rohde-schwarz.com/pws/dl_downloads/dl_application/application_notes/1c108/1C108_0e_Bluetooth_BR_EDR_AFH.pdf; https://www.bluetooth.org/docman/handlers/downloaddoc.ashx?doc_id=456433).

24. Upon information and belief, the Accused Instrumentality performs the step of selecting another frequency after the first time period to transmit and receive data over the communication link. For example, with Bluetooth 4.0 (or later version), the physical channel is sub-divided into time units known as slots. (*E.g.*, https://www.bluetooth.org/docman/handlers/downloaddoc.ashx?doc_id=456433). Data is transmitted/received between Bluetooth devices in packets that are positioned in these slots. (*Id.*). Frequency hopping takes place between the transmission or reception of packets. (*Id.*).

25. Upon information and belief, the Accused Instrumentality performs the step of after selecting the another frequency, selecting, during a second time period, the frequency that was monitored during the first time period. For example, Bluetooth 4.0 (or later version) after selecting another frequency (*e.g.*, frequency hopping) selects at a second time period the frequency that was monitored during the first time period (*e.g.*, the system returns to monitor the first frequency again to determine whether the first frequency is still bad). (*E.g.*, https://cdn.rohde-schwarz.com/pws/dl_downloads/dl_application/application_notes/1c108/1C108_0e_Bluetooth_BR_EDR_AFH.pdf; https://www.bluetooth.org/docman/handlers/downloaddoc.ashx?doc_id=456433).

26. Upon information and belief, the Accused Instrumentality performs the step of performing, during the second time period, error correction on the selected frequency in response to the monitored quality monitored during the first time period. For example, Bluetooth 4.0 (or later version) performs the step of performing, during the second time period, error correction (*e.g.*, marking the frequency as bad, suppresses any data packets that are to be next transmitted utilizing the bad frequency, and/or retransmitting the data packet) on the selected frequency in response to the monitored quality monitored during the first time period. (*E.g.*, https://cdn.rohde-schwarz.com/pws/dl_downloads/dl_application/application_notes/1c108/1C108_0e_Bluetooth_BR_EDR_AFH.pdf; https://www.bluetooth.org/docman/handlers/downloaddoc.ashx?doc_id=456433; http://download.ni.com/evaluation/rf/intro_to_bluetooth_test.pdf).

27. Plaintiff has been damaged as a result of Defendant's infringing conduct. Defendant is thus liable to Plaintiff for damages in an amount that adequately compensates Plaintiff for such Defendant's infringement of the '207 patent, *i.e.*, in an amount that by law cannot be less than would constitute a reasonable royalty for the use of the patented technology, together with interest and costs as fixed by this Court under 35 U.S.C. § 284.

28. On information and belief, Defendant has had at least constructive notice of the '207 patent by operation of law and marking requirements have been complied with.

IV. COUNT II
(PATENT INFRINGEMENT OF UNITED STATES PATENT NO. 7,106,705)

29. Plaintiff incorporates the above paragraphs herein by reference.

30. On September 12, 2006, United States Patent No. 7,106,705 ("the '705 Patent") was duly and legally issued by the United States Patent and Trademark Office. The '705 Patent

is titled "Method and Communication System for Transmitting Data for a Combination of Several Services via Jointly Used Physical Channels." A true and correct copy of the '705 Patent is attached hereto as Exhibit C and incorporated herein by reference.

31. Sonohm is the assignee of all right, title and interest in the '705 patent, including all rights to enforce and prosecute actions for infringement and to collect damages for all relevant times against infringers of the '705 Patent. Accordingly, Sonohm possesses the exclusive right and standing to prosecute the present action for infringement of the '705 Patent by Defendant.

32. The U.S. application leading to the '705 patent was filed May 21, 2001 based on a PCT filed date of November 24, 1999. (Ex. C at cover).

33. The invention in the '705 Patent relates to the field of communication for transmitting data for a combination of a plurality of services via jointly used physical connections. (*Id.* at col. 1:8-11).

34. A communication system provides one or more physical transmission channels for transmitting data between a data source and a data sink. (*Id.* at col. 1:15-16). Transmission channels may be a wide variety of types including cable-conducted using electrical or optical signal, or radio transmission via a radio interface using electromagnetic waves. (*Id.* at col. 1:17-20).

35. Radio transmission is used in mobile radio systems in order to set up a connection to a nonstationary subscriber, such as a mobile station. (*Id.* at col. 1:24-24). A mobile station, for example, can be a mobile phone, a laptop computer, or a Bluetooth device. Within coverage of the network, the mobile stations can request a connection from any desired location, or a connection can be set up to the mobile station. (*Id.* at col. 1:25-28). The most common mobile

radio system at the time of the patent application was GSM, which was developed for a single service (voice transmission). (*Id.* at col. 1:28-31).

36. In contrast, at the time the application was filed, Europe was standardizing another mobile radio generation, UMTS, which could provide a plurality of services. (*Id.* at col. 1:35-40). Such a standardization had documentation that typically provide an overview of how a transmission protocol can support the transport of data for a plurality of services. (*Id.* at col. 1:41-48). The use of a physical channel for transmitting data for a plurality of services presupposes that a unique mapping specification indicates the allocation of the services to different segments of the physical channel. (*Id.* at col. 1:49-52). For example, a physical channel could be defined as a frequency band, a spread code, and a time slot within a frame. (*Id.* at col. 1:52-55). In order to be able to select the currently used combinations of the transport formats for the various services in line with requirements, the TFC[1] needs to be able to be changed and therefore the TFCI[2] needs to be signaled regularly. (*Id.* at col. 2:15-18). However, this signaling ties up transmission capacity. (*Id.* at col. 2:18-19). The greater the number of possible combination options, the more capacity is required for signaling. (*Id.* at col. 2:19-21).

37. Recognizing this problem, the inventors developed a method and communication system that reduces the required signaling capacity without limiting the number of combination options and the selection thereof. (*Id.* at col. 2:25-28). The invention draws a distinction between services with high and low data rate dynamics and uses a matched type of signaling for the transport format currently being used. (*Id.* at col. 2:33-35). No joint signaling for all

[1] TCF is the Transport Format Combination which indicates a possible combination of the transport formats for the various services which are mapped onto a common physical channel. (*Id.* at col. 2:1-4.

[2] TCFO is Transport Format Combination Identifier which indicates the currently used combination of the transport formats within the TFCs. (*Id.* at col. 2:9-11).

services takes place, but instead signaling can be individualized. (*Id.* at col. 2:41-45). For services with high data rate dynamics, in-band signaling of the transport format is carried out, and for services with low data rate dynamics, the transport format is signaled in a separate channel. (*Id.* at col. 2:45-48). In-band signaling supports the high dynamics of the data rate change in many services by signaling newly chosen transport formats at an appropriate speed, whereas somewhat slower signaling accompanying the connection is chosen for services with data rates which change only slowly or to a limited extent. (*Id.* at col. 2:48-54).

38. On the basis of stipulating a combination of the currently used transport formats for the services and the signaling thereof, the data for the services are transmitted via the currently available common physical channels on the basis of the combination of the transport formats and, at the reception end, are evaluated on the basis of the signaled combination of the transport formats. (*Id.* at col. 2:55-61). With the same number of combination options, less capacity is required for in-band signaling, since only a portion of the services need to be served constantly. (*Id.* at col. 2:62-64).

39. The prosecution history of the '705 patent further explains the unconventional features of the claimed invention. The prior art did not disclose transmitting data for first and second services in a first channel, signaling one or more first transport formats for the first services in-band in the first channel, and signaling a second transport format for the second service in a second, separate channel. (Ex. D at 9-10). One reference only disclosed transmitting at different data for a single service without disclosing transmission of first and second services having different data rate dynamics. (*Id.* at 10). Another prior art reference only disclosed transmitting data over a channel that is separate from the signaling information. (*Id.*). However, in the claimed invention, a combination of data for first and second services is transmitted over

one channel, signaling information for the first services (having a high data rate dynamics) is also transmitted over the first channel, and signaling information for the second service (having lower data rate dynamics) is transmitted in a second, separate channel. (*Id.* at 11). The claimed method was therefore not the conventional operation disclosed in the prior art. The claims where then allowed.

40. **Direct Infringement.** Upon information and belief, Defendant has been directly infringing at least claim 1 of the '705 patent in Delaware, and elsewhere in the United States, by performing actions comprising using or performing the claimed method by using Amazon Fire HD 8, Amazon Fire Kids Edition 7, Amazon Fire HD 10, Amazon Fire HD 10 Kids Edition, Amazon Fire 7, ASUS - ZenFone Max Plus M1, BLU Vivo XI+, BLU Grand M2, BLU Vivo XI, BLU Vivo One Plus, BLU Studio Mega, BLU Grand M3, BLU Vivo ONE, Caterpillar's CAT S41, CellAllure Cool Duo, CellAllure Fashion C, CellAllure Fashion 2, CellAllure Miracle S, DigiLand DL1016 10.1" Tablet, Ematic 10.1" Tablet, NUU Mobile A3, RugGear RG730, RugGear RG725, RugGear RG650, RugGear RG160, Visual Land Prestige Elite 10QL, Prestige Elite 10QD, PRESTIGE Elite - 13.3", Prestige Elite 11Q, Insignia™ - BRICK 2 Portable Bluetooth Speaker – Black, Insignia™ - WAVE 2 Portable Bluetooth Speaker - Black/Red/Blue, Insignia™ - Rugged Portable Bluetooth Speaker – Black, Insignia™ - 2.0-Channel Soundbar with Digital Amplifier – Black (NS-HSB318), Insignia™ - 2.0 Bluetooth Lighted Speaker System (2pc) – Black, Insignia™ - 200W 2.0-Ch. Stereo Receiver – Black, Insignia™ - 2.1 Bluetooth Speaker System (3-Piece) – Black, Insignia™ - Portable Bluetooth Speaker Pair with built-in Walkie-Talkies – Black, Insignia™ - Premium Audio Pico WVGA DLP Projector, Insignia™ - 2.1 Bluetooth Lighted Speaker System (3-Piece) – Black, Insignia™ - Portable Bluetooth Audio Receiver, Insignia™ - True Wireless In-Ear Headphones – Black, Insignia™ -

Wireless In-Ear Headphones – Black, and Insignia™ - Wireless Earbud Headphones - Off-white ("Accused Instrumentality").

41. Upon information and belief, the Accused Instrumentality performs the step of specifying one or more first transport formats for first services and a second transport format for a second service, the first services having higher data rate dynamics than the second service. For example, the Accused Instrumentalities implements Bluetooth 4.0 (or later version). (*E.g.*, https://www.bestbuy.com/site/amazon-fire-hd-8-8-tablet-16gb-8th-generation-2018-release-black/6293710.p?skuId=6293710; https://www.bestbuy.com/site/amazon-fire-7-kids-edition-2019-release-7-tablet-16gb-blue/6351410.p?skuId=6351410; https://www.bestbuy.com/site/amazon-fire-hd-10-10-1-tablet-32gb-7th-generation-2017-release-marine-blue/5998909.p?skuId=5998909; https://www.bestbuy.com/site/amazon-fire-hd-10-kids-edition-10-1-tablet-32gb-pink/6264903.p?skuId=6264903; https://www.bestbuy.com/site/amazon-fire-7-2019-release-7-tablet-32gb-black/6351530.p?skuId=6351530; https://www.bestbuy.com/site/asus-zenfone-max-plus-m1-4g-lte-with-32gb-memory-cell-phone-unlocked-deepsea-black/6186103.p?skuId=6186103; https://www.bestbuy.com/site/blu-vivo-xi-with-64gb-memory-cell-phone-unlocked-silver/6288555.p?skuId=6288555; https://www.bestbuy.com/site/blu-grand-m2-3g-with-8gb-memory-cell-phone-unlocked-gold/6178644.p?skuId=6178644; https://www.bestbuy.com/site/blu-vivo-xi-with-32gb-memory-cell-phone-unlocked-silver/6291857.p?skuId=6291857; https://www.bestbuy.com/site/blu-vivo-one-plus-with-16gb-memory-cell-phone-unlocked-black/6196929.p?skuId=6196929; https://www.bestbuy.com/site/blu-studio-mega-with-16gb-memory-cell-phone-unlocked-black/6291866.p?skuId=6291866; https://www.bestbuy.com/site/blu-grand-m3-with-16gb-

memory-cell-phone-unlocked-black/6351954.p?skuId=6351954; https://www.bestbuy.com/site/blu-vivo-one-with-16gb-memory-cell-phone-unlocked-black/6197100.p?skuId=6197100; https://www.bestbuy.com/site/cat-s41-4g-lte-with-32gb-memory-cell-phone-unlocked-black/6179601.p?skuId=6179601; https://www.catphones.com/en-us/cat-s41-smartphone/; https://www.bestbuy.com/site/cellallure-cool-duo-with-16gb-memory-cell-phone-unlocked-black/6337296.p?skuId=6337296; https://www.cellallure.com/cool-duo; https://www.bestbuy.com/site/cellallure-fashion-c-with-16gb-memory-cell-phone-unlocked-aurora-lights-iml-blue-and-purple/6344671.p?skuId=6344671; https://www.cellallure.com/fashion-c-cs; https://www.bestbuy.com/site/cellallure-cool-duo-with-16gb-memory-cell-phone-unlocked-black/6337296.p?skuId=6337296; https://www.amazon.com/CellAllure-screen-Factory-Unlocked-Smartphone/dp/B00UA55QZ4; https://www.bestbuy.com/site/cellallure-fashion-2-plus-with-16gb-memory-cell-phone-unlocked-gold/6337313.p?skuId=6337313; https://www.cellallure.com/fashion-2-plus; https://www.bestbuy.com/site/cellallure-fashion-2-plus-with-16gb-memory-cell-phone-unlocked-black/6337311.p?skuId=6337311; https://www.cellallure.com/fashion-2-plus; https://www.bestbuy.com/site/cellallure-miracle-s-with-16gb-memory-cell-phone-unlocked-gold/6293240.p?skuId=6293240; https://www.cellallure.com/product-page/cellallure-miracle-6-0-s; https://www.bestbuy.com/site/cellallure-miracle-s-with-16gb-memory-cell-phone-unlocked-black/6293236.p?skuId=6293236; https://www.cellallure.com/product-page/cellallure-miracle-6-0-s; https://www.bestbuy.com/site/digiland-10-1-tablet-32gb-black/6305253.p?skuId=6305253; https://www.bestbuy.com/site/ematic-10-1-tablet-16gb-with-keyboard-black/6302276.p?skuId=6302276; https://www.bestbuy.com/site/ematic-10-1-tablet-16gb-with-keyboard-blue/6302601.p?skuId=6302601; https://www.bestbuy.com/site/ruggear-rg730-with-

16gb-memory-cell-phone-unlocked-black/6351961.p?skuId=6351961&intl=nosplash; https://ruggear.com/product/rg730/; https://www.bestbuy.com/site/ruggear-rg725-with-16gb-memory-cell-phone-unlocked-black/6351947.p?skuId=6351947; https://ruggear.com/product/rg725-2/; https://www.bestbuy.com/site/ruggear-rg650-with-16gb-memory-cell-phone-unlocked-black/6351956.p?skuId=6351956; https://ruggear.com/product/rg650/; https://www.bestbuy.com/site/ruggear-rg160-with-4gb-memory-cell-phone-unlocked-black/6351955.p?skuId=6351955; https://ruggear.com/product/rg160/; https://www.bestbuy.com/site/visual-land-prestige-elite-10ql-10-1-tablet-16gb-with-keyboard-black/4588200.p?skuId=4588200; https://www.cnet.com/products/visual-land-prestige-elite-10ql/; https://www.bestbuy.com/site/visual-land-prestige-elite-10qd-10-1-tablet-16gb-with-keyboard-paisley/6308768.p?skuId=6308768; https://www.amazon.com/Visual-Land-Prestige-Keyboard-ME10QDDC16BLK/dp/B078ZM5Y9Q; https://www.bestbuy.com/site/visual-land-prestige-elite-13-3-tablet-64gb-blue/5710745.p?skuId=5710745; https://www.amazon.com/Prestige-ELITE-13Q-QuadCore-Lollipop/dp/B01CE44DPM; https://www.bestbuy.com/site/visual-land-prestige-elite-10qd-10-1-tablet-16gb-with-keyboard-blue/6308763.p?skuId=6308763; https://www.amazon.com/Visual-Land-Prestige-Keyboard-ME10QDDC16BLK/dp/B078ZM5Y9Q; https://www.bestbuy.com/site/visual-land-prestige-elite-11q-11-6-tablet-32gb-with-keyboard-purple/4626226.p?skuId=4626226; https://www.amazon.com/Prestige-Quad-Core-Lollipop-Keyboard-Included/dp/B016S0XKEI; https://www.bestbuy.com/site/visual-land-prestige-elite-10qd-10-1-tablet-16gb-with-keyboard-magenta/6308760.p?skuId=6308760; https://www.amazon.com/Visual-Land-Prestige-Keyboard-ME10QDDC16BLK/dp/B078ZM5Y9Q; https://www.bestbuy.com/site/visual-land-prestige-

elite-13-3-tablet-64gb-magenta/5710744.p?skuId=5710744; https://www.amazon.com/Prestige-ELITE-13Q-QuadCore-Lollipop/dp/B01CE44DPM; https://www.bestbuy.com/site/visual-land-prestige-elite-13-3-tablet-64gb-red/5710743.p?skuId=5710743; https://www.amazon.com/Prestige-ELITE-13Q-QuadCore-Lollipop/dp/B01CE44DPM; https://www.bestbuy.com/site/visual-land-prestige-elite-11q-11-6-tablet-32gb-with-keyboard-black/4626215.p?skuId=4626215; https://www.amazon.com/Prestige-Quad-Core-Lollipop-Keyboard-Included/dp/B016S0XKEI; https://www.bestbuy.com/site/visual-land-prestige-elite-13-3-tablet-64gb-black/5710748.p?skuId=5710748; https://www.amazon.com/Prestige-ELITE-13Q-QuadCore-Lollipop/dp/B01CE44DPM; https://www.bestbuy.com/site/visual-land-prestige-elite-10qd-10-1-tablet-16gb-with-keyboard-black/6308751.p?skuId=6308751; https://www.amazon.com/Visual-Land-Prestige-Keyboard-ME10QDDC16BLK/dp/B078ZM5Y9Q; https://www.bestbuy.com/site/ematic-10-1-tablet-16gb-with-keyboard-blue/6302601.p?skuId=6302601; https://www.bestbuy.com/site/ematic-10-1-tablet-16gb-with-keyboard-blue/6302601.p?skuId=6302601; https://files.bbystatic.com/4EzY3P1u6%2Fsjbb%2FqeYZHzw%3D%3D/NS-SPBTBRICK-C_QSG_EN.pdf; https://www.bestbuy.com/site/insignia-brick-2-portable-bluetooth-speaker-black/6179625.p?skuId=6179625; https://files.bbystatic.com/mEurpUx6UeZ7thUPRIl9Fg%3D%3D/NS-SPBTWAVE2_17-0900_QSG_V3_EN_Final_lr.pdf; https://www.bestbuy.com/site/insignia-wave-2-portable-bluetooth-speaker-black/6172765.p?skuId=6172765; https://www.bestbuy.com/site/insignia-wave-2-portable-bluetooth-speaker-red/6179631.p?skuId=6179631; https://www.bestbuy.com/site/insignia-wave-2-portable-bluetooth-speaker-blue/6179624.p?skuId=6179624; https://www.bestbuy.com/site/insignia-rugged-portable-

bluetooth-speaker-black/5204300.p?skuId=5204300; https://www.bestbuy.com/site/insignia-2-0-channel-soundbar-with-digital-amplifier-black/5809303.p?skuId=5809303; https://files.bbystatic.com/YWsfiIHWDRRF20uY04GiUQ%3D%3D/90b25579-e2ee-4154-8f2a-b2a58946d4d6.pdf; https://www.bestbuy.com/site/insignia-2-0-bluetooth-lighted-speaker-system-2pc-black/6324347.p?skuId=6324347; https://www.bestbuy.com/site/insignia-200w-2-0-ch-stereo-receiver-black/4156007.p?skuId=4156007; https://files.bbystatic.com/%2BvgZsJBHFE3v5byqxYY7uQ%3D%3D/NS-PSB4721_16-0186_QSG_V1_EN_Final_lr.pdf; https://www.bestbuy.com/site/insignia-2-1-bluetooth-speaker-system-3-piece-black/5450917.p?skuId=5450917; https://files.bbystatic.com/7pKG3tjLyf2tCLdgdzdmeA%3D%3D/4537BB80-F4D2-4D37-BD0E-0DBEFED1D150.pdf; https://www.bestbuy.com/site/insignia-portable-bluetooth-speaker-pair-with-built-in-walkie-talkies-black/6200211.p?skuId=6200211; https://fccid.io/PUZ-NS-PR200/RF-Exposure-Info/RF-Exposure-Info-3574818; https://www.bestbuy.com/site/insignia-premium-audio-pico-wvga-dlp-projector-black/5947812.p?skuId=5947812; https://files.bbystatic.com/%2BvgZsJBHFE3v5byqxYY7uQ%3D%3D/NS-PSB4721_16-0186_QSG_V1_EN_Final_lr.pdf; and https://www.bestbuy.com/site/insignia-2-1-bluetooth-lighted-speaker-system-3-piece-black/6324351.p?skuId=6324351). Bluetooth 4.0 (or later version) specifies one or more first transport formats (*e.g.*, air bit rate, modulation schemes, etc.) for first services (*e.g.*, Basic Rate/Enhanced Data Rate ("BR/EDR") services like audio streaming to wireless speakers and/or headphones) and a second transport format (*e.g.*, symbol rate, modulation format etc.) for a second service (*e.g.*, Low Energy ("LE") services like sensors working on LE), the BR/EDR service having higher data rate dynamics than the LE service. (*E.g.*, https://www.bluetooth.org/docman/handlers/downloaddoc.ashx?doc_id=456433).

42. Upon information and belief, the Accused Instrumentality performs the step of transmitting a combination of data for the first services and data for the second service over a first channel based on the first and second transport formats. For example, using Bluetooth 4.0 (or later version) transmits a combination of data for the first services (*e.g.*, BR/EDR audio streaming data) and data for the second service (*e.g.*, Low Energy services like sensors transmitting on LE) over a first channel based on the first and second transport formats. (*E.g.*, https://www.bluetooth.org/docman/handlers/downloaddoc.ashx?doc_id=456433).

43. Upon information and belief, the Accused Instrumentality performs the step of signaling, in-band in the first channel, the one or more first transport formats for the first services. For example, using Bluetooth 4.0 (or later version) sets up channels where the signaling of a transport format, like error connection codes or QoS (Quality of Service) parameters, is shared on the same channel as data communication. (*E.g.*, https://www.bluetooth.org/docman/handlers/downloaddoc.ashx?doc_id=456433).

44. Upon information and belief, the Accused Instrumentality performs the step of signaling, in a second channel, the second transport format for the second service, the first channel and the second channel comprising separate channels. For example, using Bluetooth 4.0 (or later version), LE mode is restricted to a communication format where the signaling information is established on a separate channel (*e.g.*, additional links), and not on the data communication channel. Furthermore, physical links between the connected devices are used to transport the logical links. Upon information and belief, the additional links created for signaling in a LE service, signals the information regarding the second service having lower rate dynamics (*e.g.*, an LE service) on a separate channel which is different from the first link/channel (*e.g.*, the channel over which the data communication is taking place and which carries the signaling

information regarding BR/EDR services). (*E.g.*, https://www.bluetooth.org/docman/handlers/downloaddoc.ashx?doc_id=456433).

45. Plaintiff has been damaged as a result of Defendant's infringing conduct. Defendant is thus liable to Plaintiff for damages in an amount that adequately compensates Plaintiff for such Defendant's infringement of the '705 patent, *i.e.*, in an amount that by law cannot be less than would constitute a reasonable royalty for the use of the patented technology, together with interest and costs as fixed by this Court under 35 U.S.C. § 284.

46. On information and belief, Defendant will continue its infringement of one or more claims of the '705 patent unless enjoined by the Court. Each and all of the Defendant's infringing conduct thus causes Plaintiff irreparable harm and will continue to cause such harm without the issuance of an injunction.

V. COUNT III
(PATENT INFRINGEMENT OF UNITED STATES PATENT NO. 8,843,641)

47. Plaintiff incorporates the above paragraphs herein by reference.

48. On September 23, 2014, United States Patent No. 8,843,641 ("the '641 Patent") was duly and legally issued by the United States Patent and Trademark Office. The '641 Patent is titled "Plug-In Connector System for Protected Establishment of a Network Connection." A true and correct copy of the '641 Patent is attached hereto as Exhibit E and incorporated herein by reference.

49. Sonohm is the assignee of all right, title and interest in the '641 patent, including all rights to enforce and prosecute actions for infringement and to collect damages for all relevant times against infringers of the '641 Patent. Accordingly, Sonohm possesses the exclusive right and standing to prosecute the present action for infringement of the '641 Patent by Defendant.

50. The U.S. application leading to the '641 patent was filed May 18, 2011. (Ex. E at cover).

51. The invention in the '641 Patent relates to the field of plug-in connector systems and a network plug and a network socket for protected establishment of a network connection, which is especially suitable for granting previously defined entities access to a system that is to be maintained. (*Id.* at col. 1:8-13).

52. When connecting one computer-type device to another computer-type device using a physically wired connection, it is necessary to make sure that only appropriately authorized devices are allowed access using the physical connection. (*Id.* at col. 1:16-37). To grant access rights, an authentication check is usually performed in which a claimed identity is verified and therefore the authorization for accessing the device interface is checked. (*Id.* at col. 1:38-41). If the authentication is successful, the access rights previously allocated to the respective user are granted. (*Id.* at col. 1:41-43).

53. Most known authentication methods are based on the entity being authorized having to prove, in relation to a checking entity, that it is in possession of a secret and/or object. (*Id.* at col. 1:44-46). The best known authentication method is the transmission of a password in which the authenticating entity transmits a secret password directly to a checking entity. (*Id.* at col. 1:47-49). The checking entity or the authentication checking unit respectively then check the correctness of the transmitted password. (*Id.* at col. 1:49-51). However, to administer this type of authentication for a large system involves significant administrative overhead. (*Id.* at col. 1:52-54).

54. Another known option for secure access is to provide the respective network sockets in an area to which access is physically limited. (*Id.* at col. 1:60-64). This method has

uncertainties because a physical access protective can be overcome with little effort in most cases and demands significant administrative oversight. (*Id.* at col. 1:65-col. 2:2).

55. The inventors therefore sought to develop a system for administering and implementing access rights for network systems that is operable and secure with little effort. (*Id.* at col. 2:7-9). An exemplary system that achieves the advantages of the claimed invention a plug-in connector system, a network plug and a network socket, wherein the inventive plug-in connector system for protected establishment of a network connection comprises a network plug featuring an authentication unit and a network socket featuring an authentication checking unit and an enabling unit. (*Id.* at col. 2:10-16).

56. **Direct Infringement.** Upon information and belief, Defendant has been directly infringing at least claims 1 and 7 of the '641 patent in Delaware, and elsewhere in the United States, by using, selling, and/or offering for sale the BLU Vivo XI+ ("Accused Instrumentality").

57. Upon information and belief, the Accused Instrumentality has a network socket having an authentication checking unit and an enabling unit. For example, the Accused Instrumentality has a USB-C socket that has an authentication checking unit and an enabling unit. (*E.g.*, https://www.bestbuy.com/site/blu-vivo-xi-with-64gb-memory-cell-phone-unlocked-silver/6288555.p?skuId=6288555; https://bluproducts.com/devices/vivo-xi-plus/; https://www.manualslib.com/manual/1572254/Blu-Vivo-Xi.html). Upon information and belief, the Accused Instrumentality has an enabling unit which enables protected establishment of a network communication (*e.g.*, an Internet connection) subsequent to successful authorization of the computing device (*e.g.*, a computer, laptop, etc.). (*E.g.*, https://www.usb.org/sites/default/files/documents/usb_authentication_20180904.zip).

58. Upon information and belief, the Accused Instrumentality has a network socket being configured for implementation in a plug-in connection system for protected establishment of a network connection. For example, the Accused Instrumentality is configured for implementation in a plug-in connection system (*e.g.*, USB-C based connector system) for protected establishment of a network connection (*e.g.*, an Internet connection). (*E.g.*, https://www.bestbuy.com/site/blu-vivo-xi-with-64gb-memory-cell-phone-unlocked-silver/6288555.p?skuId=6288555; https://bluproducts.com/devices/vivo-xi-plus/; https://www.manualslib.com/manual/1572254/Blu-Vivo-Xi.html).

59. Upon information and belief, the Accused Instrumentality has an authentication checking unit (*e.g.*, an Authentication Initiator) that is configured to transfer a checking command (*e.g.*, a CHALLENGE Req) to the authentication unit (*e.g.*, the component of the Computer/Laptop which responds to the authentication requests/challenges) and to check a transferred checking response from the authentication unit, checking the transferred checking response comprising performing a cryptographic computation utilizing a stored cryptographic key implemented as part of the USB-C specification. (*E.g.*, https://www.usb.org/sites/default/files/documents/usb_authentication_20180904.zip).

60. Upon information and belief, the Accused Instrumentality has an enabling unit that is configured to enable a physical connection between the network connector (*e.g.*, a computer, laptop, etc.) and the network socket (*e.g.*, the accused product) for protected establishment of the network connection (*e.g.*, an Internet connection) in an event of a successful check of the checking response (*e.g.*, a CHALLENGE_AUTH Resp) by the authentication checking unit (e.g., the Authentication Initiator inherent in the accused product). (*E.g.*, https://www.usb.org/sites/default/files/documents/usb_authentication_20180904.zip). Upon

information and belief, the Accused Instrumentality verifies the checking response (e.g., a CHALLENGE_AUTH Resp) and completes an authorization process in the event of a successful signature verification within the CHALLENGE_AUTH Resp. (*Id.*).

61. Upon information and belief, the Accused Instrumentality has a network socket that includes a communication unit for wired transfer of the checking command and the checking response between the authentication unit and the authentication checking unit. For example, the network connector of the Accused Instrumentality (*e.g.*, the USB/Network Interface of the computer, laptop, etc.) and the network socket (*e.g.*, the USB/Network Interface of the accused product) each include a communication unit (*e.g.*, USB communication unit) for wired transfer of the checking command (*e.g.*, a CHALLENGE Req) and the checking response (*e.g.*, a CHALLENGE_AUTH Resp) between the authentication unit (*e.g.*, the component of the computer/laptop which responds to the authentication requests/challenges) and the authentication checking unit (e.g., Authentication Initiator inherent in the accused product).

62. Plaintiff has been damaged as a result of Defendant's infringing conduct. Defendant is thus liable to Plaintiff for damages in an amount that adequately compensates Plaintiff for such Defendant's infringement of the '641 patent, *i.e.*, in an amount that by law cannot be less than would constitute a reasonable royalty for the use of the patented technology, together with interest and costs as fixed by this Court under 35 U.S.C. § 284.

63. On information and belief, Defendant will continue its infringement of one or more claims of the '641 patent unless enjoined by the Court. Each and all of the Defendant's infringing conduct thus causes Plaintiff irreparable harm and will continue to cause such harm without the issuance of an injunction.

IV. JURY DEMAND

Plaintiff, under Rule 38 of the Federal Rules of Civil Procedure, requests a trial by jury of any issues so triable by right.

V. PRAYER FOR RELIEF

WHEREFORE, Plaintiff respectfully requests that the Court find in its favor and against Defendant, and that the Court grant Plaintiff the following relief:

a. Judgment that one or more claims of United States Patent No. 6,651,207 have been infringed, either literally and/or under the doctrine of equivalents, by Defendant;

b. Judgment that one or more claims of United States Patent No. 7,106,705 have been infringed, either literally and/or under the doctrine of equivalents, by Defendant;

c. Judgment that one or more claims of United States Patent No. 8,843,641 have been infringed, either literally and/or under the doctrine of equivalents, by Defendant;

d. Judgment that Defendant account for and pay to Plaintiff all damages to and costs incurred by Plaintiff because of Defendant's infringing activities and other conduct complained of herein;

e. That Plaintiff be granted pre-judgment and post-judgment interest on the damages caused by Defendant's infringing activities and other conduct complained of herein;

f. That Defendant be permanently enjoined from any further activity or conduct that infringes one or more claims of United States Patent No. 7,106,705; and

g. That Defendant be permanently enjoined from any further activity or conduct that infringes one or more claims of United States Patent No. 8,843,641; and

h. That Plaintiff be granted such other and further relief as the Court may deem just and proper under the circumstances.

August 29, 2019

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